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# (57) Abstract

**Technical problem** An object of this invention is also cheap goods to provide the electronic money which can be purchased electronically, and the circulation system by an electronic store, an electronic bank, etc. which circulate this.

**Means for Solution** Call electronic money what built electronic coin, an electronic card, and an electronic purse in a memory part inside a mobile communication machine, and with this electronic coin 101. Desired amount information is downloaded with a public line, and it can be made to carry out from the electronic bank 14 in amount-of-money within the limits to possess repeated use to the vending machine 2 through permanent communication which communication cost does not generate.

## Claim(s)

**Claim 1** A mobile communication machine which delivers and receives information by communication with the exterior, comprising:

A reception means which receives electronic data which is equivalent to the amount of money as said a part of information.

A memory measure which carries out storing storage of the electronic data received by said reception means.

A setting-out means for setting electronic data which is equivalent to rental spending within the limits of the amount of money of electronic data by which storing storage was carried out as said memory measure.

A transmitting means which sends electronic data set up by said setting-out means to the other party in exclusive radio.

**Claim 2** Electronic money having value equivalent to money as the electronic data according to claim 1, and dealing with information on electronic coin which can circulate electronically.

**Claim 3** As the electronic coin according to claim 2, the Japanese yen, the U.S. dollar, the Canadian dollar, Electronic money making usable at least one or more of currency of an Australian dollar, a nugee land dollar, a Hong Kong dollar, Euro, German marks, the British pound, French Franc, a Swiss franc, the Spain peseta, the Italian lira, a tie baht, and many other foreign countries, etc.

**Claim 4** Electronic money characterized by making usable at least one or more of a prepaid card, a reversionary card, a simultaneous payment card, point service cards, etc. as the electronic data according to claim 1.

**Claim 5** Electronic money characterized by making usable at least one or more of bus cards, an orange card, an IO card, a Metro card, shopping cards, etc. as the prepaid card according to claim 4.

**Claim 6** Electronic money characterized by making usable at least one or more of a department store card, a credit card, calling cards, etc. as the reversionary card according to claim 4.

**Claim 7** Electronic money characterized by making usable at least one or more of a debit card, an IC card, loan cards, etc. as the simultaneous payment card according to claim 4.

**Claim 8** Electronic money characterized by making usable at least one or more of a mileage card, a shopping card, member's cards, etc. as a point service card of claim 4.

**Claim 9** Electronic money making usable at least one or more electronic cards among the various cards according to claim 5 to 8.

**Claim 10** Electronic money adding an identification number which specifies a sending person in the mobile communication machine according to claim 1.

**Claim 11** Electronic money characterized by using a telephone number for a telephone call by the side of a sending person as the identification number according to claim 10.

**Claim 12** The mobile communication machine comprising according to claim 1:

An operation key into which said setting-out means can input setup information.

A lock means to which said operation key is made as for the 3rd person to a disable.

**Claim 13** Electronic money providing a warning means which warns of a residue of a cell in the mobile communication machine according to claim 1.

**Claim 14** Electronic money providing any one or more functions according to claim 13 from claim 11.

**Claim 15** claim 5 to the electronic coin according to claim 3, the electronic card according to claim 9, and \*\* -- electronic money making at least one or more usable among them.

**Claim 16** It indicates claim 15 from claim 2 characterized by comprising the following.

An adding means which adds received electronic data to storage electronic data by which storing storage was already carried out.

A subtraction means which reduces setting-out electronic data from storage electronic data by which storing storage was already carried out.

**Claim 17**Electronic money characterized by dealing with a beam below a decimal point as a digit number of the electronic data according to claim 16 from claim 2.

**Claim 18**Electronic money characterized by using a transceiver function of PHS type telephone as the exclusive wireless communication means according to claim 1.

**Claim 19**Electronic money using a transceiver function of the PHS type telephone according to claim 18, and using it rather than communication with an external mobile communication base station bringing down transmission power.

**Claim 20**Electronic money characterized by using a Bluetooth communication method as the exclusive radio according to claim 1.

**Claim 21**Electronic money characterized by using an optical ppm communication method as the exclusive radio according to claim 1.

**Claim 22**Electronic money characterized by using a notice function of a sender number of a commercial portable telephone set and PHS type telephone as the exclusive radio according to claim 1.

**Claim 23**Electronic money, wherein the other party of the exclusive radio according to claim 1 considers it as an electronic store which receives electronic data equivalent to money and provides goods or service.

**Claim 24**Electronic money considering it as a mobile communication machine having electronic money as the other party by the exclusive radio according to claim 1.

**Claim 25**Electronic money characterized by receiving with a public line from an electronic bank as a reception means from the outside of the electronic data according to claim 1.

**Claim 26**An electronic store comprising:

A reception means with which apparatus receives electronic data equivalent to the amount of money from the exterior.

A memory measure which carries out storing storage of the electronic data based on said reception means at an internal storage part of apparatus.

A setting-out means for setting up electronic data which is equivalent to remittance amount within the limits of the amount of money of storage electronic data based on said memory measure.

A transmitting means which sends electronic data set up by said setting-out means to the other party by an exclusive wireless communication means.

**Claim 27**As the electronic data according to claim 26, the Japanese yen, the U.S. dollar, the Canadian dollar, An Australian dollar, a nugea land dollar, a Hong Kong dollar, Euro, German marks, An electronic store having the apparatus which made usable at least one or more of currency of the British pound, French Franc, a Swiss franc, the Spain peseta, the Italian lira, a tie baht, and many other foreign countries, etc.

**Claim 28**An electronic store owning apparatus considers it as a means by which the electronic data according to claim 27 is receivable, and distinguishes an identification code from the customer side to the vending machine side, and it was made not to make generate mixing with other customers.

**Claim 29**An electronic store owning apparatus which uses a sender number of telephone for a telephone call as the identification code according to claim 28.

**Claim 30**Claim 26 statement characterized by comprising the following.

An adding means which adds received electronic data to storage electronic data which already carries out storing storage.

A subtraction means which reduces setting-out electronic data from storage electronic data which already carries out storing storage.

**Claim 31**An electronic store holding apparatus characterized by comprising the following.

The first step that considers it as a means by which the electronic data according to claim 30 is receivable from claim 27, and tells an injection of electronic data.

The second step that tells selection of goods, and the third step that tells taking out of goods.

**Claim 32**An electronic store having considered it as a means by which the electronic data according to claim 31 is receivable from claim 27, and having a means to control an interrupt inhibit flag not to make it mix up with other customers to the vending machine side.

**Claim 33**An electronic store characterized by having the apparatus which also dealt with a beam below a decimal point as a digit number of the electronic data according to claim 32 from claim 27.

**Claim 34**An electronic bank holding apparatus characterized by comprising the following.

A reception means with which a bank receives electronic data equivalent to the amount of money from the exterior.

A memory measure which carries out storing storage of the electronic data received by said reception means. A setting-out means for setting electronic data which is equivalent to the amount of money for employment within the limits of the amount of money of electronic data by which storing storage was carried out as said memory measure.

A transmitting means which sends electronic data set up by said setting-out means using the usual means of communication to an electronic store etc. which conduct quotient dealings by transmission of electronic data between a mobile transmitter and this mobile transmitter.

**Claim 35**As the electronic data according to claim 34, the Japanese yen, the U.S. dollar, the Canadian dollar, an Australian dollar, a nuae land dollar, a Hong Kong dollar, Euro, German marks, An electronic bank having the apparatus which made usable at least one or more of currency of the British pound, French Franc, a Swiss franc, the Spain peseta, the Italian lira, a tie baht, and many other foreign countries, etc.

**Claim 36**Claim 35 statement characterized by comprising the following.

An adding means which adds received electronic data to storage electronic data by which storing storage was already carried out.

A subtraction means which reduces setting-out electronic data from storage electronic data by which storing storage was already carried out.

**Claim 37**An electronic bank providing a means to exchange the amount of money for which said addressee asks to cash or other financial products, to an addressee who received said electronic data when a carrier which obtained electronic data by a method according to claim 36 employed said electronic data.

**Claim 38**An electronic bank mainly characterized by exchanging said electronic data to cash to said addressee according to claim 36 who received.

**Claim 39**An electronic bank characterized by performing exchange between currency of each country for said electronic data to said addressee according to claim 36 who received.

**Claim 40**An electronic bank mainly characterized by entrusting said employment of said electronic data which received to said addressee according to claim 36.

**Claim 41**An electronic bank characterized by having the apparatus which also dealt with a beam below a decimal point as a digit number of the electronic data according to claim 40 from claim 36.

## Detailed Description of the Invention

**0001**

**Field of the Invention**This invention relates to electronic money, an electronic store, and an electronic bank.

**0002**

**Description of the Prior Art**As a means of the settlement of accounts replaced with cash, there is electronic money which is indicated by JP,12-175268,A. There are two kinds of types of electronic money, an IC card type and a network type.

**0003**In the former moves the same value as cash using an IC card, makes the data which is equivalent to an IC card beforehand from the account of a bank at the required amount of money move and memorize, go to the store which can use an IC card, and the store, It is a thing of a method which reads the amount of money with the IC card reader which inserted the IC card, and settles the price for payment.

**0004**On the other hand, the latter publishes E cash accepted on networks, such as the Internet, and when it purchases goods to purchase on a network, it makes payment by E cash on a network. However, in the case of which both, in the case of about thousands of yen shopping, Used amount might be used comparatively few frequently, and in order not to balance the cost (fee) which settlement of accounts and network use take and to lower cost, use of the prepaid card had to be approached. **0005**Next, drawing 18, drawing 19, and drawing 20 explain the actual condition about circulation of currency-related finance. Drawing 18 is a figure explaining the gestalt of the conventional cash, and, as for 1a-1c, coin and 2 are vending machines.

**0006**Also in the electronic money as for the coin 1a, in a figure, a 100 yen coin and the coin 1c of a 500 yen coin and the coin 1b are 10 yen coins, and according to a prepaid card or an IC card, The actual condition is using a coin for cheap goods which are purchased with the vending machine 2 from on costs, such as card issuing expense and communication cost.

**0007**Drawing 19 is a figure for which the gestalt of the conventional wallet is shown, and, as for a wallet and 4, a coin stowage and 6 are card containing sections a bill stowage and 5 3. In the figure, the wallet 3 mainly comprises the bill stowage 4 which stores a bill, the coin stowage 5 which stores a coin, and the card containing

section 6 which stores various cards. **0008\*\*\*\*\*** must carry a card with much function according to the function of the use, a bank-affiliated sequence, a trust company series, a store series, etc. and a card, the difference from hard, etc., becoming instead of a card being cash in recent years, and changing very conveniently.

**0009**Drawing 20 is a figure explaining the conventional cash and the circulation gestalt of various cards, As for a bus and 12, a store and 14 for 10 a train and 13 cash and 11 A bank, A department store and 16 for 15 a credit company and 17 a dedicated terminal and 18 Bus cards, 19 an IO card and 20 an orange card and 21 A \*\*\*\*\* card, A debit card and 24 are the purchase courses according **28** to a card and the credit guarantee courses according **29** to a card according **22** to the purchase course according **27** to cash a credit card and 23.

according / 26 / to a loan card according / an IC card and 25 / to an ATM card Two in drawing 20 attaches the numerals same for the same composition as drawing 18, and corresponding composition.

**0010**In the figure, the purchase course 28 according **the purchase course 27 by cash** to a white thick line and a card expresses the credit guarantee course 29 by the black thick line and a card with the black small-gage wire. Although the cash 10 is used in the large meaning also including a coin and a bill, and the purchase of various kinds of articles and enjoyment of a service are first possible in the vending machine 2 in the cash 10, though regrettable, only cash or a prepaid card is difficult to use for the purchase of cheap goods like a vending machine.

**0011**A prepaid card pays and purchases cash beforehand like bus cards or the orange card of JR. The predetermined face amount is printed by the surface of the prepaid card, and the still more nearly same amount of money is recorded by magnetism. And goods can be purchased to the predetermined face value recorded on this prepaid card.

**0012**When using this prepaid card, the dedicated device for magnetic reading and writing which makes a check and change of the amount of money currently recorded is required. For this reason, in order to have realized the settlement system using the prepaid card by which magnetic recording was carried out, realization was difficult only in the major company which needs to work the hardware mentioned above in various places, requires a huge amount of expenses, and has funding ability.

**0013**As a magnetic card type which is the orthodox prepaid card, IO card 19, the orange card 20, the Highway Card for highways, etc. need to pay the cash 10 a priori to the bus cards 18 used by bus 11, and the thing used by train 12, and it is necessary to purchase with a vending machine for exclusive use.

**0014**After purchasing this kind of prepaid card, as the same value as cash, it is usable at the place which accepts the use of that card in it. However, since the theft after this kind of purchase and the responsibility for loss are in the buyer side in front face, this kind of card is socially made unsuitable for the purchase of expensive goods, and spread is following it as an object for the purchase of cheap goods.

**0015**The institution where the store 13 can purchase an article, the institution which can enjoy the service of service, Although the institution etc. which can enjoy the service of eating and drinking are symbolized and expressed and it is usable in the store 13 also in the department store card 21, the credit card 22, the debit card 23, and IC card 24 grade besides cash 10, It is a system of deferred payment that what is necessary is just to pay money in several months that these cards differ from a prepaid card greatly in respect of use, even if there is no cash 10 in the purchase of goods.

It is the feature that there is an organization which has guaranteed the act to a buyer.

**0016**The department store 15 guarantees the department store card 21, the credit company 16 has guaranteed the credit card 22, the bank 14 has guaranteed the debit card 23 directly, and the bank 14, the department store 15, and the credit company 16 opt for a guarantee assignment mutually in practice, and it is carried out.

**0017**ATM card 25 and the loan card 26 are one of different cards from the above usage pattern. Although the card of these both is not directly applicable to shopping with this card, ATM card 25 will be used, when pulling out as cash within the limits of the deposit balance of that account or paying in, if it deposits with the account in the bank 14 beforehand.

**0018**On the other hand, in respect of the card used in order that the loan card 26 may draw out cash, although it is the same as ATM card 25, Also when there is no deposit, it is a card with which the financial institution represented by a bank, a consumer credit company, finance company, etc. lends out by trusting an individual, and financial institution is a card aiming at obtaining the interest in this loan period. Although shopping is made with neither the cashcard 25 nor the loan card 26, it is the debit card 23 that it is going to make this possible.

**0019**About the newest and most popular IC card as a medium of future electronic money. IC memory chip is built in to the store method of the card which has described more than having been based on magnetism, and it is not reputable, in spite of being able to expect the marked improvement in functional and conducting the use experiment in various places, since the storage capacity is extraordinarily large. The biggest causes of the badness of this reputation are that it must go from a user side to the place of the dedicated terminal 17, and that can prepare many number of the dedicated terminals 17 by a cost aspect from a donor side, and there is nothing.

**0020**Although electronic money is applied with the gestalt of the IC card as mentioned above, Draw out the cash

deposited to the financial institution and an IC card for exclusive use is made to memorize, It says that payment is made from an IC card in the specific store which can use an IC card, and a dedicated card peculiar to the organization which provides a service with the function of the IC card is required, and needs a dedicated terminal for download of data.

#### 0021

**Problem(s) to be Solved by the Invention**As mentioned above, infrastructure expense required for installation of a dedicated terminal etc. in the system which is going to purchase goods with the electronic money by the conventional IC card costs dearly, Since the buyer who uses the system also needs an IC card and the running cost occupied to a merchandise price is high, there is the inapplicable actual condition in cheap goods.

#### 0022

**Means for Solving the Problem**This invention solves the above-mentioned technical problem, and is small, and an object of this invention is for both sides of infrastructure expense and employment expense to provide cheap electronic money, an electronic store, and an electronic bank by acting to a function which it has in a standard of a mobile communication machine which spread through the telephone call as an additional processing husband.

**0023**In a mobile communication machine in which the first invention delivers and receives information by communication with the exterior, A reception means which receives electronic data which is equivalent to the amount of money as a part of information, Electronic money which had a setting-out means for setting up electronic data which is equivalent to rental spending within the limits of the amount of money of electronic data by which storing storage was carried out, and a transmitting means which sends electronic data set up by a setting-out means to the other party in a memory measure which carries out storing storage of the electronic data received by a reception means, and a memory measure. It is also good to have value equivalent to money as this electronic data, and to deal with information on electronic coin which can circulate electronically.

**0024**As this electronic coin, the Japanese yen of a coin, the Japanese yen of a bill, the U.S. dollar, The Canadian dollar, an Australian dollar, a nugee land dollar, a Hong Kong dollar, Electronic money which made usable at least one or more of currency of Euro, German marks, the British pound, French Franc, a Swiss franc, the Spain peseta, the Italian lira, a tie baht, and many other foreign countries, etc. may be used.

**0025**And it is the electronic money which made usable at least one or more of a prepaid card, a reversionary card, a simultaneous payment card, point service cards, etc. as this electronic card.

**0026**here -- as this prepaid card -- bus cards, an orange card, an IO card, a Metro Card, a shopping card, --, \*\* -- electronic money which made one or more usable among them may be used.

**0027**As this reversionary card, electronic money which made usable at least one or more of a department store card, a credit card, calling cards, etc. may be used. Electronic money which made usable at least one or more of a debit card, an IC card, loan cards, etc. may be used as this simultaneous payment card.

**0028**Electronic money which made usable at least one or more of a mileage card, a shopping card, member's cards, etc. may be used as this point service card. Electronic money which made usable at least one or more electronic cards among these various cards may be used.

**0029**As a security protection means of electronic money, a sending person's identification number can be added and it is also good as this identification number to use a telephone number for a telephone call by the side of a sending person. It may be made to have a keyboard lock-out to which an operation key is made as for the 3rd person to a disable, and the function to warn of a residue of a cell.

**0030**Electronic money which made usable one or more of electronic coin and various kinds of electronic cards may be used as electronic data.

**0031**Electronic money which has an adding means which adds received electronic data to storage electronic data by which storing storage was already carried out, and a subtraction means which subtracts setting-out electronic data from storage electronic data which already carries out storing storage may be used, and it may be made to also deal with a beam below a decimal point as a digit number of electronic data above.

**0032**Electronic money characterized by using a transceiver function of PHS type telephone as an exclusive wireless communication means may be used. Electronic money which used a transceiver function of PHS type telephone, and was used rather than communication with an external mobile communication base station bringing down transmission power may be used. A Bluetooth communication method may be used as this exclusive wireless communication means.

**0033**As an exclusive wireless communication means, an optical ppm communication method may be used and a notice function of a sender number of a commercial portable telephone set and PHS type telephone may be used as a concrete plan of encryption of commo data in this exclusive wireless communication means.

**0034**The other party of exclusive radio can also be made into an electronic store which receives electronic data equivalent to money and provides goods or service. It is also possible to receive with a public line from a mobile communication machine which contained electronic money in the last as the other party by exclusive radio, or an electronic bank.

**0035**A reception means from which the 2nd invention receives electronic data with which apparatus is equivalent to the amount of money from the exterior, A memory measure which carries out storing storage of the electronic

data based on a reception means at an internal storage part of apparatus, It is an electronic store possessing a setting-out means for setting up electronic data which is equivalent to remittance amount within the limits of the amount of money of storage electronic data based on a memory measure, and a transmitting means which sends electronic data set up by a setting-out means to the other party by an exclusive wireless communication means.

**0036**As this electronic data, the Japanese yen of a coin, the Japanese yen of a bill, the U.S. dollar, The Canadian dollar, an Australian dollar, a nugea land dollar, a Hong Kong dollar, An electronic store which holds apparatus which made usable at least one or more of currency of Euro, German marks, the British pound, French Franc, a Swiss franc, the Spain peseta, the Italian lira, a tie baht, and many other foreign countries, etc. may be sufficient.

**0037**An electronic store which owns apparatus considers it as a means by which this electronic data is receivable, and distinguishes an identification code from the customer side to the vending machine side, and it was made not to make generate mixing with other customers may be sufficient, and an electronic store which owns apparatus which uses a sender number of telephone for a telephone call as an identification code may be sufficient.

**0038**An electronic store which holds apparatus which has an adding means which adds received electronic data to storage electronic data which already carries out storing storage, and a subtraction means which reduces setting-out electronic data from storage electronic data which already carries out storing storage may be sufficient.

**0039**An electronic store which holds apparatus with the first step that considers it as a means by which the above electronic data is receivable, and tells an injection of electronic data, the second step that tells selection of goods, and the third step that tells taking out of goods may be sufficient.

**0040**An electronic store provided with a means to control an interrupt inhibit flag to consider it as a means by which the above electronic data is receivable, and not to make it mix up with other customers to the vending machine side may be sufficient. It may be made to have the apparatus which a beam below a decimal point also dealt with as a digit number of the above electronic data.

**0041**A reception means from which the 3rd invention receives electronic data with which a bank is equivalent to the amount of money from the exterior, A memory measure which carries out storing storage of the electronic data based on a reception means at an internal storage part of a mobile communication machine, A setting-out means for setting up electronic data which is equivalent to the amount of money for employment within the limits of the amount of money of storage electronic data, It is an electronic bank which holds apparatus possessing a transmitting means which sends electronic data set up by a setting-out means using the usual means of communication to an electronic store etc. which conduct quotient dealings by transmission of electronic data between a mobile transmitter and this mobile transmitter.

**0042**As this electronic data, the Japanese yen, the U.S. dollar, the Canadian dollar, an Australian dollar, An electronic bank which has the apparatus which made usable at least one or more of currency of a nugea land dollar, a Hong Kong dollar, Euro, German marks, the British pound, French Franc, a Swiss franc, the Spain peseta, the Italian lira, a tie baht, and many other foreign countries, etc. may be sufficient.

**0043**An electronic bank which holds apparatus which has an adding means which adds received electronic data to storage electronic data by which storing storage was already carried out here, and a subtraction means which reduces setting-out electronic data from storage electronic data by which storing storage was already carried out may be sufficient.

**0044**When a carrier which obtained electronic data by a method of indicating here employs electronic data, an electronic bank possessing a means to exchange the amount of money for which an addressee asks to cash or other financial products may be sufficient to an addressee who received electronic data.

**0045**As opposed to said addressee who performed exchange to cash or mainly received electronic data to an addressee who received this electronic data, An electronic bank which has the apparatus which also dealt with a beam below a decimal point as a digit number of electronic data of a more than \*\*\*\* /, and / that employment of electronic data which received is mainly entrusted to an addressee who received electronic data may be sufficient. performing exchange between currency of each country

**0046**Although a mobile communication machine is explained as a portable telephone in the following explanation, a thing which an individual can carry easily is expressed with small size, such as a PHS type portable telephone and a car telephone machine, and a thing made intelligent more is also cheaply miniaturized by it, and suppose that all the things with a wireless communication function are expressed.

**0047**

**Embodiment of the Invention**Embodiment 1. drawing 1 is a block diagram showing Embodiment 1 of the electronic money by this invention, and 101 is a portable telephone. 2 in drawing 1 and 14 attach the numerals same for the same composition as drawing 18 and drawing 20, and corresponding composition.

**0048**In the figure, the portable telephone 101 downloads 10,000 yen for the desired amount of money temporarily through the public line from the bank 14 beforehand, 100-yen is temporarily transmitted for the data which is equivalent to a coin with a wireless communication method for exclusive use to the vending machine

purchased in the usual coins of vending machine 2 grade within the limits of it, and structure which has a means by which this data is receivable by the vending machine 2 side is built. **0049**Although it is communication cost here, when the expense for downloading from the bank 14 considers it as 10 yen per time; are 0.1% per 10,000 yen, and are a range permissible also in cost (fee), but. It stops being a range which will become 10% of burden if communication charges of 10 yen occur using a public line, although 100 yen goods are purchased temporarily, and can be permitted very much. **0050**Since according to the rate of the above communication charges 1% or more of communication charges will occur, it is realistic and it is lost when 1000 or less yen goods are purchased using a public line, here, As a method of exclusive radio, it is equipped standardly with the PHS type portable telephone, communication cost uses the method of the PPM system by an usable transceiver function method, infrared rays, etc., or a wireless communication system for exclusive use for nothing by short-distance within the limits, and there is \*\*\*\*\* necessity about the policy which makes communication charges no charge.

**0051**Drawing 2 is a figure for explaining the fundamental plan of the electronic coin by this invention, 201 is a memory part and 202a-202d are money. As for 1a-1c in drawing 2, 101 in drawing 18 and drawing 2 attaches the numerals same for the same composition as drawing 1, and corresponding composition.

**0052**In a figure, it can be made to carry out at the memory part 201 inside the portable telephone 101 memory storage of the electronic data of electronic coin, In coins, such as the coin 1a of a 500 yen coin, the coin 1b of a 100 yen coin, and the coin 1c of a 10 yen coin. It can be made to carry out one-piece storing storage of the electronic data of the money which totaled the both sides of the bill of the 10,000 yen paper money 202a, the 5000 yen paper money 202b, and the 1000 yen paper money 202c, and the electronic coin which is equivalent to the total amount to the part of the coin 202d of a coin 1 yen.

**0053**Thus, if money is used as one electronic data, the minimum unit may not necessarily be 1 yen, it will become possible to manage the electronic data which has below a decimal point with sufficient accuracy, and accumulation of the amount of money of the fraction by a discount rate etc. will also be attained.

**0054**Drawing 3 is a figure for explaining the block diagram for an operation of the electronic coin by the portable telephone of this invention, and, as for a subtracting part and 304, a receive section and 302 are a **transmitting coin set part** and **306** transmission sections a memory part and 305 a receiving coin recognition part and 303 301.

**0055**In a figure, from the exterior, when mainly receiving electronic coin from a bank, The data of the amount of money which is equivalent to electronic coin in the receive section 301 in the inside of a portable telephone is received, In **send to the receiving coin recognition part 302, send the data which is equivalent to the amount of money in the amount of money which received in the receiving coin recognition part 302 while a display or other means inform an owner of information to the subtracting part 303, and the subtracting part 303**, It adds to the data equivalent to the amount of money already memorized by the memory part 304, and storing storage of the total amount is carried out at the original place of the memory part 304.

**0056**When mainly transmitting electronic coin to a vending machine outside, In **send also to the subtracting part 303 at the same time it sends the data of the amount of money equivalent to the electronic coin set up by the transmitting coin set part 305 which consists of a keystroke in the inside of a portable telephone, or a display for indication to the transmission section 306, and the subtracting part 303**, It subtracts from the data equivalent to the amount of money already memorized by the memory part 304, and storing storage of the total amount is carried out at the original place of the memory part 304.

**0057**When it is setting out with a large frame of transmitted electronic coin compared with the amount of money already memorized by the memory part 304, he is trying to protect from the subtracting part 303 here transmission of the electronic coin mistaken by not permitting a ready-for-sending ability signal exceeding the stock amount of money to the transmission section 306. In this case, a certain error message is passed to an owner.

**0058**Drawing 4 is a figure for explaining the example of use of the electronic money by this invention, and 401a-401c are messages. Two in drawing 4 attaches the numerals same for the composition as drawing 1 with 101 **same** in drawing 18 and drawing 4, and corresponding composition.

**0059**In the figure, when it prepared in order to remit 100 yen electronic coin with the portable telephone 101, and electronic coin was transmitted to the vending machine side by exclusive radio, "electronic coin was switched on with the vending machine 2. Please choose the first step expressing the message 401a ", next "goods. Please take "goods at the second step and the last which pass the message 401b ". It answers at the third step that passes the message 401c ".

**0060**As an expressive medium of the message passed at the first step - third step here, any one or more of the means by generating of the means by the display of LED, a liquid crystal, etc. or a message with a sound or the means by a print are included.

**0061**Drawing 5 is a figure for explaining the block diagram for an operation of the electronic coin by the vending machine of this invention, 501 is a merchandise price recognition part and 502 is a comparing element. 301, 302, 303, 304, 305, and 306 in drawing 5 attach the numerals same for the same composition as drawing 3, and corresponding composition.



**0062**In a figure, from the exterior, when mainly receiving electronic coin from a portable telephone, The data of the amount of money which is equivalent to electronic coin in the receive section 301 in the inside of a vending machine is received, By sending to the receiving coin recognition part 302, and the comparing element 502 comparing the money data from the receiving coin recognition part 302, and the money data from the goods recognition part 501, if equal, **In send the data which is equivalent to the amount of money in the amount of money which received in the receiving coin recognition part 302 while a display or other means inform an owner of information to the subtracting part 303, and the subtracting part 303, It adds to the data equivalent to the amount of money already memorized by the memory part 304, and storing storage of the total amount is carried out at the original place of the memory part 304.** When there is no comparison result of the data of the comparing element 502 equally, it will retry by performing error handling.

**0063**When mainly transmitting electronic coin to the exterior to an electronic bank, **In send also to the subtracting part 303 at the same time it sends the data of the amount of money equivalent to the electronic coin set up by the transmitting coin set part 305 in the inside of a vending machine to the transmission section 306, and the subtracting part 303,** It subtracts from the data equivalent to the amount of money already memorized by the memory part 304, and storing storage of the total amount is carried out at the original place of the memory part 304. Although the method of setting the desired amount of money as the basis of judgment by the storekeeper of an electronic store timely is also possible, the determination of the amount of money in the transmitting coin set part 305, If the amount of money memorized by the memory part 304 becomes more than fixed in performing this by uninhabited, more than the predetermined balance can be automatically remitted to an electronic bank timely. More than the predetermined balance can be automatically remitted to an electronic bank for every predetermined period. For example, when 12:00 has the balance of 10,000 yen or more every day, it is remitting the amount of money exceeding 10,000 yen to an electronic bank. Both sides may be combined.

**0064**Drawing 6 is a figure for explaining one example of the requirement specification to the exclusive radio for electronic money by this invention, and a portable telephone, and 2a-2c of 101a-101c are vending machines. In a figure -- a buyer -- there are a total of three sets, the portable telephone 101a of the person himself/herself, others' portable telephone 101b, and another others' portable telephone 101c, -- a buyer -- the case where there are the vending machine 2a in which the person himself/herself wishes to purchase, other vending machine 2bs, and other vending machines 2c is assumed.

**0065**It is making a mistake to the surrounding vending machine, and not transmitting electronic coin here, when transmitting electronic coin to a desired vending machine with an exclusive wireless communication method from a portable telephone, and that it is most important in the case of the receipt of goods not to mix up with other persons. Even if it sends electronic coin while not receiving and other persons use access from other persons until an exchange of electronic coin is completed, it is necessary to guarantee being ignored etc. A customer stands in front of a desired vending machine, and when transmitting electronic coin, the method of decreasing until the antenna power of the exclusive radio of a portable telephone can reach in the less than power **about** of the grade which is not mixed to the next vending machine, for example, 30 cm, is made into an example. When two customers access simultaneously, after also carrying out some to giving priority to the earlier one and starting the communication for dealings of a customer and a vending machine in time, interference is prevented by switching communication frequency to a thing \*\*\*\*, or locking it in code.

**0066**As a security protection means of electronic money, it is also possible to add a password etc. as a sending person's identification number, and, in addition, the telephone number for a telephone call can also be used as this identification number. As measures against the dead battery in a device, The purpose can be easily attained by using the battery alarm function which warns of the battery residue with which the portable telephone for a telephone call is equipped standardly, and the purpose can be easily attained by using the keyboard lock-out which makes an operation key a disable as measures of theft prevention with a device.

**0067**The state where a buyer is wrong and telephone was operated, and when **unusual** it gathers, or a theft is suited and a portable telephone is used for other persons, it is desirable not to deduct the balance of electronic coin. The purpose can be easily attained by using for this the keyboard lock-out which makes a disable the operation key with which the portable telephone for a telephone call is equipped standardly.

**0068**As a method of responding, also when an accident, a theft, and a portable telephone are damaged and it is poor, It is possible if the system as the whole distribution sector of the money which included the telephone number of the portable telephone which transmitted the used electronic data in some data of electronic data, transmitted, and made the distribution channel of electronic data traceable is made. But, as a society as a whole, it becomes a high cost, and since it is easily contrary to supposing freely that it is usable anywhere at a low price, the change made into the original aim of this invention is stopped to the statement of this level here.

**0069**An operation method which agrees rather than there is a risk beforehand, is kept from downloading a lot of money to a portable telephone, and is devoted to use of the electronic money in each one of buyers' risk within the limits is an important thing also from the cost performance as a society as a whole.

**0070**Although correspondence procedures, such as communication of a ppm (Pulse Position Modulation) method

and Bluetooth, are proposed and tried, as a correspondence procedure used here, it is possible also at a wireless communication method for exclusive use with still less a short distance, weak power, and data volume.

**0071** However, the direction of using the method which has generally spread widely like the transceiver function operating standardly with the existing PHS telephone set until implementation of this invention spreads widely, The cost as the whole should become cheap and the direction of the exclusive wireless communication system original with this invention should become cheaper along with increase of spread.

**0072** Drawing 7 is a flow chart figure showing the purchase procedure by the electronic money by this invention. Here, the flow which leads also to solution of the technical problem that confusion with other persons and other vending machines which were regarded as questionable by explanation of drawing 6 occurs by explanation of the operation flow by the side of the buyer in the case of purchasing goods with vending machines, such as juice and cola, an information terminal, and a vending machine is explained. First, even if a buyer performs the price check of the goods currently displayed on the vending machine about goods to carry out a purchase desire and is 100 yen, in order that he may check whether the amount of money is within the limits of the balance which remains in the inside of a portable telephone, When the coin balance is checked, it uses that it was 900 yen temporarily.

**0073** Next, if the input means on a portable telephone is used and 100 yen is inputted by setting out (ST01) of purchased amount, it will be displayed on the indicator on a portable telephone that used amount (ST02) is 100 yen. About this amount of money, it is also possible to decide a communication procedure to send electronic data by exclusive radio from the vending machine side.

**0074. whether other persons are using the vending machine which it is going to purchase, and** Or it checks by seeing by the eye whether it is a state in which whether to be out of order and purchase are possible, The display with a "possible" sale by the side of a vending machine is checked (ST10). Is it in the state which can be "sold? If the check of "is set to YES (ST03), electronic coin transmission will be performed by the operation on a portable telephone (ST04), and the electronic data which is equivalent to a vending machine at 100 yen electronic coin will be sent by exclusive radio.

**0075** The vending machine side sets up other electronic coin receptionist inhibit flags at the same time it receives electronic coin from a buyer (ST11), and it forbids them so that mixing with other buyers may not occur. Next, "electronic coin was switched on. Please choose "goods following the display (ST12) of ". The display of "or the announcement (ST13) with a sound is passed. Since it changed into the same state as having fed the coin of the actual thing into the vending machine above, in order to specify the goods of hope, it chooses by a goods button depression with the operation switch on a vending machine (ST06).

**0076** the vending machine side detects a goods button depression, when the amount of money of the electronic coin transmitted from the portable telephone and the amount of money of selected goods are in agreement (ST14), transmits the signal of the completion of an electronic coin receptionist (ST15) to a buyer from the vending machine side, and takes out goods (ST16) -- " -- please take. While outputting the message of "(ST17), a coin receptionist inhibit flag is canceled (ST18) and "sale of the usual state is possible. "is displayed (ST10) and it goes into a waiting state.

**0077** When merchandise purchase succeeds, a merchandise purchase success serves as YES (ST07), If a buyer's portable telephone receives the signal of the completion of an electronic coin receptionist (ST15), the balance display of 900 yen will be subtracted by the balance display (ST08) on a portable telephone to 800 yen, it is displayed while this subtracted value is memorized to the memory part 304 of drawing 8, and the buyer can check that it has been remitted correctly.

**0078** When the amount of money of the electronic coin transmitted from the portable telephone and the amount of money of selected goods are not in agreement (ST14), output the message of coin receiving failures (ST19) and a retry is demanded from a buyer, A coin receptionist inhibit flag is canceled (ST18) and "sale of the usual state is possible. "(ST10) is displayed and it goes into a waiting state. In this case, since a buyer's merchandise purchase success (ST07) is NO, it will once end and the purchase act at that time will be again retried from the beginning.

**0079** In order to specify the goods of choice, instead of hand control as the commodity selection method here by setting out on a terminal. By exclusive radio, easily, sending to the vending machine side is possible the electronic data, and by the input means on a portable telephone. A product number input is performed and it can become equivalent to the case where it chooses by a goods button depression (ST06) with the operation switch on the conventional vending machine as No. 3 temporarily.

**0080** until the receipt (ST09) of goods is performed, it completes the buyer and information terminal side, the vending machine side returns to a head and there is the next buyer -- sale -- being possible (ST10) -- it will display and will stand by by a standby state.

**0081** The amount of money in the main reasons coincidence (ST14) is not materialized. Like **at the time of trying to send 100 yen electronic coin, although he wanted to purchase 110 yen goods** , when frames fewer than goods are sent, the case where more frames than goods are sent etc. may occur like **at the time of trying to send 120 yen electronic coin** .

**0082** When the electronic coin of few frames is sent compared with the frame of goods, in the usual buying

method by the conventional cash. Since selection usually will not be permitted, and purchase will usually become possible if additional coin is thrown in, the goods more expensive than an inputted sum at the vending machine side may be made into the procedure which can transmit additional electronic coin.

**0083** Since change is usually returned in the usual buying method by the conventional cash when the electronic coin of many frames is sent compared with the frame of goods, it may be made the procedure in which the change in a coin is returned or the change by electronic data can be received.

**0084** Drawing 8 is a figure for explaining the block diagram for an operation with currency distinction of the electronic coin of this invention, 801 is a currency set part and 802 is a memory control part. 301, 302, 303, 304, 305, and 306 in drawing 8 attach the numerals same for the same composition as drawing 3, and corresponding composition.

**0085** Next, although the method of an operation when electronic coin targets the currency of each country is explained, From the exterior, when mainly receiving electronic coin from a bank, The data of the amount of money which is equivalent to electronic coin in the receive section 301 in the inside of a portable telephone is received, In **send to the receiving coin recognition part 302, send the data which is equivalent to the amount of money in the amount of money which received in the receiving coin recognition part 302 while a display or other means inform an owner of information to the subtracting part 303, and the subtracting part 303,** It adds to the data equivalent to the amount of money already memorized by the memory part 304, and storing storage of the total amount is carried out at the original place of the memory part 304. It is controlled so that the data of the amount of money and the kind of currency are distinguished in the receiving coin recognition part 302, a signal is sent to the memory control part 802 and the memory control part 802 specifies the memory storage place assigned by currency correspondence of the memory part 304 at this time.

**0086** When mainly transmitting electronic coin to a vending machine outside, The kind of currency set up by the currency set part 801 which consists of a keystroke in the inside of a portable telephone or a display for indication is sent to the transmitting coin set part 305, In **send also to the subtracting part 303 at the same time it sends the data of the amount of money which is equivalent to electronic coin in the transmitting coin set part 305 to the transmission section 306, and the subtracting part 303,** It subtracts from the data equivalent to the amount of money already memorized by the memory part 304, and storing storage of the total amount is carried out at the original place of the memory part 304.

**0087** When it is setting out with a large frame of transmitted electronic coin compared with the amount of money already memorized by the memory part 304, he is trying not to permit a ready-for-sending ability signal from the subtracting part 303 to the transmission section 306 here.

**0088** Drawing 9 is a block diagram showing the example of use of the various electronic cards by this invention, and 901a-901f are portable telephones with a built-in card function. Two in drawing 9 attaches the numerals same for the composition as drawing 1 in which 101 in drawing 20 and drawing 9 is the same as for 11, 12, and 13 in drawing 18 and drawing 9, and corresponding composition.

**0089** It is made to carry out storing storage by various card correspondences using the internal-memory part of a portable telephone like having made the internal-memory part 201 of the portable telephone 101a of the explanation of the function of the various cards of use by drawing 2 into the portable telephone of drawing 1 memorize the contents of electronic coin by explanation of drawing 20.

**0090** In a figure, the portable telephone 901a with a built-in card function corresponds to bus cards, The portable telephone 901b with a built-in card function corresponds to an IO card or an orange card, The portable telephone 901c with a built-in card function corresponds to an IC card, the portable telephone 901d with a built-in card function corresponds to a debit card, the portable telephone 901e with a built-in card function corresponds to a credit card, and the portable telephone 901f with a built-in card function is equivalent to the \*\*\*\*-\*\* card.

**0091** Use the portable telephone 101a which has a function of cash, and goods are purchased with the vending machine 2, It telephones with a public telephone using the portable telephone 901a with a built-in card function, The trains 12, such as a train, are taken using the portable telephone 901b with a built-in card function, It can use now for shopping, eating and drinking, etc. in the store 13 using the portable telephone 901c with a built-in card function, the portable telephone 901d with a built-in card function, the portable telephone 901e with a built-in card function, or the portable telephone 901f with a built-in card function.

**0092** Drawing 10 is a block diagram showing the circulation gestalt of the various electronic cards by this invention, and 901 is a portable telephone. Numerals with 14, 15, 16, and 17 in drawing 10 are attached. **same for the composition as drawing 9 with 901a-same 901f in drawing 20 and drawing 10 and corresponding composition**

**0093** In a figure, the portable telephone 901 electronizes an ATM card and a loan card, The portable telephone 901a with a built-in card function, the portable telephone 901b with a built-in card function, and the portable telephone 901c with a built-in card function download the information on each corresponding card, and can have now a function as each electronic card.

**0094** The portable telephone 901d with a built-in card function downloads the information on a debit card from the bank 14, and can have now a function as an electronic debit card, The portable telephone 901e with a built-in

card function downloads the information on a credit card, and can have now a function as an electronic credit card, and the portable telephone 901f with a built-in card function downloads the information on a department store card, and can have now a function as an electronic department store card.

**0095**The bank 14 is having it checked by real time to the degree of a demand in the meaning of credit investigation to the information requirements from each portable telephone with a built-in card function that it is a suitable demand while being connected to the portable telephone 901.

**0096**Even in use of the electronic card for every individual function unit of this, since it is use of these portable and non-contact electronic cards, when some shopping is done, there are effects, like long queuing in a register is canceled, and not only an individual but the social very big effect to be used can be expected.

**0097**Embodiment 2. drawing 11 is a block diagram showing the embodiment of the electronic purse by this invention, and 1101 is an electronic purse built-in portable telephone. Two in drawing 11 attaches the numerals same for the composition as drawing 20 with 11, 12, and 13 in drawing 18 and drawing 11, and corresponding composition. **same**

**0098**In a figure, the electronic purse built-in portable telephone 1101 enables storage of two or more functions to one set among the inventions of Embodiment 2. Thereby, if one set is carried for the electronic purse built-in portable telephone 1101, all the things that have the required money can be performed shopping in the vending machine 2, the entrainment to the bus 11 or the train 12, shopping in the store 13, eating and drinking, etc. and conventionally.

**0099**In order to make the above thing possible, the electronic store which holds apparatus with an exclusive wireless communication means which can receive the electronic data from the electronic purse built-in portable telephone 1101 is required. All the things which make payment for sale of all the articles, service, service which are represented with the vending machine 2, the bus 11, the train 12, and the store 13 as a kind of this electronic store are included.

**0100**Drawing 12 is a block diagram showing the concept of the electronic purse by this invention, 1201 is a memory part and 1202a-1202d are the memory parts corresponding to a card. 1101 in drawing 12 attaches the numerals same for the same composition as drawing 11, and corresponding composition.

**0101**In a figure, the memory part 1201 in the inside of the electronic purse built-in portable telephone 1101, Comprise the memory part assigned by various card correspondences, for example, the memory part 1202a corresponding to a card Electronic coin correspondence, As for the memory part 1202b corresponding to a card, electronic loan card correspondence and the memory part 1202d corresponding to a card of electronic ATM card correspondence and the memory part 1202c corresponding to a card are debit card correspondences.

**0102**As for the electronic purse built-in portable telephone 1101, the complicatedness of the electronic card built-in portable telephone 901 is canceled by the above.

**0103**embodiment 3. -- the electronic bank where all the things of electronic coin, various cards, and an electronic purse are in difficult to correspond only at the conventional bank, and deal with the above electronic finance specially as mentioned above according to a difference of conditions, such as time change, regionality, and an industry situation to adopt, is needed.

**0104**Drawing 13 is a figure explaining the example of the menu screen by the portable telephone of this invention. In the figure, drawing 13 (a) is an example of a screen display for choosing electronic money, and if No. 1 is chosen, and electronic coin and No. 2 are chosen, a cash card and No. 3 are assigned like a loan card, and it is selectable about the kind of desired electronic money. Drawing 13 (b) is an example of a screen display for choosing currency, if No. 1 is chosen and the Japanese yen and No. 2 will be chosen, is assigned so that the U.S. dollar and No. 3 may be the Canadian dollar, and is selectable about the kind of desired currency.

**0105**Drawing 14 is a figure for explaining the block diagram for an operation of the electronic money of this invention, and, as for 1401, a transmitting money recognition part and 1403 are money set parts a receiving money recognition part and 1402. 301, 303, 304, and 306 in drawing 14 attach the numerals same for the same composition as drawing 3, and corresponding composition.

**0106**From the exterior, when mainly receiving electronic money from a bank, The data of the amount of money which is equivalent to electronic coin in the receive section 301 in the inside of a portable telephone is received, In send to the receiving money recognition part 1401, send the data which is equivalent to the amount of money in the amount of money which received in the receiving money recognition part 1401 while a display or other means inform an owner of information to the subtracting part 303, and the subtracting part 303, It adds to the data equivalent to the amount of money already memorized by the memory part 304, and storing storage of the total amount is carried out at the original place of the memory part 304.

**0107**It is controlled so that the data of the amount of money and the kind of currency are distinguished in the receiving money recognition part 1401, a signal is sent to the memory control part 1404 and the memory control part 1404 specifies the memory storage place assigned by currency correspondence of the memory part 304 at this time.

**0108**When mainly transmitting electronic money to a vending machine outside, The kind of money set up by the

money set part 1403 which consists of a keystroke in the inside of a portable telephone or a display for indication is sent to the transmitting money set part 1402, **In send also to the subtracting part 303 at the same time it sends the data of the amount of money which is equivalent to electronic money in the transmitting money set part 1402 to the transmission section 306,** and the subtracting part 303, It subtracts from the data equivalent to the amount of money already memorized by the memory part 304, and storing storage of the total amount is carried out at the original place of the memory part 304.

**0109**When it is setting out with a large frame of transmitted electronic money compared with the amount of money already memorized by the memory part 304, he is trying to protect from the subtracting part 303 here transmission of the electronic money mistaken by not permitting a ready-for-sending ability signal exceeding the stock amount of money to the transmission section 306. In this case, a certain error message is outputted to an owner.

**0110**Drawing 15 is a block diagram for which the embodiment of the electronic bank by this invention is shown, and, as for 1101a, 1101b, 1101c, and --, an electronic bank and 1502 are banks an electronic purse built-in portable telephone and 1501. Two in drawing 15 attaches the numerals same for the composition as drawing 20 with 11, 12, and 13 in drawing 18 and drawing 15, and corresponding composition. **same**

**0111**In a figure, the electronic bank 1501 The electronic purse built-in portable telephone 1101a, Download of electronic coin or various electronic cards is performed to 1101b, 1101c, and --, and upload of the electronic money which the customer used on the contrary in the vending machine 2, the bus 11, the train 12, and the store 13 grade is performed. It enables the vending machine 2, the bus 11, the train 12, and the electronic money that had begun the store 13 grade as cash to transmit to the electronic bank 1501 by high frequency conventionally.

**0112**Although the electronic coin sent from each store is change, if the whole is collected, employment of funds of the neglected money will be effectively attained among other banks 1502 by the electronic bank 1501 until now. If it is remitted 50,000 yen respectively in the electronic store which holds temporarily the apparatus which has a function of the vending machine 2 of 10,000 shops every day, When it calculates as 300 days in consideration of a vacation among for one year, it is 150 billion yen, and if it calculates from the customer side who uses it conversely, and 10 million persons use 10,000 yen, for example, it changes to 100 billion yen and the electronic bank 1501 of a scale of this level can be expected from the beginning.

**0113**Here, although it named generically as other banks 1502 and one bank described, this has named generically business-contacts companies, such as all finance that includes an overseas bank, an investment fund, a securities firm, a futures transaction company, exchange transactions, etc. depending on timing, goods, and real estate.

**0114**The neglected fund can be conventionally managed now effectively by this. The inside of the vending machine 2 at night is destroyed forcibly, and crimes, such as having cash away, are lost.

**0115**Drawing 16 is a figure for explaining the block diagram for an operation by the electronic bank of this invention -- 1601 -- as for a money recognition part and 1605, the account Management Department and 1603 are an **individual recognition part** and **1607** the transmitting money Management Department the receiving money Management Department and 1606 an account part and 1604 an account recognition part and 1602. 301, 303, and 306 in drawing 16 attach the numerals same for the same composition as drawing 3, and corresponding composition.

**0116**The account recognition part 1601 for the main information coming to hand in a figure in the receive section 301 in the inside of the computer of an electronic bank, roughly dividing, and recognizing a sending person's account, The individual of the sending person who has accessed the money recognition part 1603 and bank for recognizing the value of the amount of money classified according to the kind of money which means distinguishing various cards, and the kind of currency of each country, The individual recognition part 1606 for identifying whether the person himself/herself has a mistake or it is not other persons' access is comprised.

**0117**Correspondence price \*\*\*\*\* of the information recognized by the account recognition part 1601 is carried out with the account for which the sending person who is in correspondence price \*\*\*\*\* part 1603 inside to more detailed management information at the account Management Department 1602 asks.

**0118**From the exterior, when receiving electronic money mainly from an electronic store, The value of the amount of money for receiving recognized by the receiving money recognition part 1604 is sent to the receiving money Management Department 1605, and the information about the kind of various money, for example, the kind of electronic card and the kind of currency, for example, kinds, such as the Japanese yen and the U.S. dollar, is sent to the account Management Department 1602. **In send the data which is equivalent to the amount of money in the amount of money which received at the receiving money Management Department 1605 while a display or other means inform an owner of information to the subtracting part 303,** and the subtracting part 303, It adds to the data equivalent to the amount of money which was specified for the information from the account Management Department 1602 and which has already been memorized by the account part 1603, and storing storage of the total amount is carried out at the original place of the account part 1603.

**0119**When transmitting electronic money mainly to a portable telephone outside, it is checked whether the individual by whom the information from the receive section 301 was beforehand registered for the individual recognition part 1606 in the inside of the computer of an electronic bank has a mistake. It will check, if there is no difference in access from an individual registered as the concrete method using the personal identification number, the personal identification number, the password, a living body identifying method, the code for which the procedure was decided beforehand on both sides, etc. When checked above, the information is sent to the transmitting money Management Department, and the amount of money recognized by the money recognition part 1604 is remitted to the transmission section 306 and the subtracting part 303. In the subtracting part 303, it subtracts from the data equivalent to the amount of money already memorized by the account part 1603, and storing storage of the total amount is carried out at the original place of the account part 1603.

**0120**When it is setting out with a large frame of transmitted electronic money compared with the amount of money already memorized by the account part 1603, he is trying to protect from the subtracting part 303 here transmission of the electronic money mistaken by not permitting a ready-for-sending ability signal exceeding the stock amount of money to the transmission section 306. In this case, a certain error message is passed to an owner.

**0121**Drawing 17 is a figure for explaining the data format of the electronic money used by this invention, As for the amount-of-money part of electronic data, and 1705, the currency identification part of electronic data and 1703 are **the example of an assignment of an electronic money identification part and 1707** the examples of bus cards the example of an assignment of a currency identification part, and 1706 the electronic money identification part of electronic data, and 1704 the example which is electronic data 1701, and 1702.

**0122**In a figure, Example 1701 of electronic data expresses an example of the form of electronic data when circulating the electronic money which uses a portable telephone between an electronic bank, an electronic store, etc. Example 1701 of electronic data comprises three portions fundamentally, It comprises the amount-of-money part 1704 of the electronic data showing the electronic money identification part 1703 of the electronic data showing the currency identification part 1702 of the electronic data which expresses the kind of currency of electronic data to the head of Example 1701 of electronic data, and the kind of electronic card, and the size of a price.

**0123**Here, the digit number comprises only a number which does not have restriction in a digit number fundamentally at variable length, a decimal point may be attached if needed and the amount-of-money part 1704 of electronic data comprises only a number which does not have restriction about a place after the decimal point in addition, either. Although it comprises only a digit string as mentioned above, only the sign showing a decimal point shall be identified by a decimal point.

**0124**It is supposed to discernment of the amount-of-money part 1704 of the electronic data which is variable length that the inside surrounded with the alphabet of the currency identification part 1702 of electronic data and the electronic money identification part 1703 of electronic data is decided to be the amount-of-money part 1704 of electronic data, Whether the amount-of-money part 1704 of electronic data is integral data and whether it is data with a decimal point decide to judge with the sign of a decimal point.

**0125**The currency identification part 1702 of electronic data is expressed with characters and signs other than single or more digits and a decimal marker, The Japanese yen of a statement in Example 1705 of an assignment of a currency identification part, the Japanese yen of a bill, the U.S. dollar, The Canadian dollar, an Australian dollar, a nuae land dollar, a Hong Kong dollar, the currency of Euro, German marks, the British pound, French Franc, a Swiss franc, the Spain peseta, the Italian lira, a tie baht, and many other foreign countries is made to correspond -- the currency according to area in the world is expressed with the sign, and although this is also variable length, it is usually an ending thing with figures double a **maximum of** . A number shall also be permitted to the beam of the higher rank which does not touch the amount-of-money part 1704 of electronic data in the character string of the currency identification part 1702 of electronic data.

**0126**The electronic money identification part 1703 of electronic data is expressed with characters and signs other than single or more digits and a decimal marker, The bus cards of a statement in Example 1706 of an assignment of an electronic money identification part, an orange card, An IO card, bus cards, a Metro Card, a shopping card, a department store card, As opposed to a credit card, a calling card, a debit card, an IC card, a loan card, a mileage card, a shop card, and a member's card, The kind of electronic money is expressed with the sign, and it is variable length, and this is also insufficient in double figures from character compared with the currency identification part 1702 of electronic data, and needs to increase a digit number with the increase in a consent person. A number shall also be permitted to the beam of the low rank which does not touch the amount-of-money part 1704 of electronic data in the character string of the electronic money identification part 1703.

**0127**It is a grade showing the about double **top figures of the character string of the electronic money identification part 1703** kind of card, and it seems that the following beam cannot but carry out still more detailed division numerically. Even if it considers only domestic bus cards of Japan so that it may understand from the table of Example 1707 of bus cards, each bus company from the bus cards currently employed individually. If shift is considered to the employment to this electronic money, although all are considered that

the case where it is not settled only with a common card comes out, they correspond also to it transitionally.

**0128**1705 shall express the assignment of the sign to currency as an example of an assignment of a currency identification part, and an electronic bank shall perform it about registration. Or instead of an electronic bank, a public institution shall perform an assignment of drawing number and registration. An electronic bank shall perform an assignment and registration of as opposed to **as an example of an assignment of an electronic money identification part** the kind of electronic money in 1706 of a sign.

**0129**The demand from a user performs conversion between the currency from which an electronic bank differs by the currency identification part 1702 of electronic data, and the rate of the conversion is based on the exchange rate determined by the exchange market which changes every moment. By the method of adding expenses for an electronic bank to manage a bank as a fee, a user's consent shall be acquired and it shall be changed.

**0130**Next, a thing expectable in this electronic bank 1501, if it turns out that the electronic money etc. which have been described above also to change are useful at low cost, it will stop at use of only change -- \*\*\*\* -- it is that there is no \*\* and a possibility over most purchase actions that it will come to be globally used if it pays and is used as a means is still larger. There are some which plan the effect as a society as a whole, and are not found by this from the lowness of the cost not only for an individual but the social infrastructure building to be used and the running cost at the time of use.

### **0131**

**Effect of the Invention**As explained above, realization of the electronic money which can purchase cheap goods by low cost is attained. Supply electronic money to the electronic store and mobile communication machine which receive electronic money and sell goods, establishment of the electronic bank which receives electronic money from an electronic store and are exchanged to cash or other financial products is attained, and the financial system of low cost can be realized as a society as a whole.

### **Brief Description of the Drawings**

**Drawing 1**It is a block diagram showing Embodiment 1 by the electronic coin of this invention.

**Drawing 2**It is a figure for explaining the fundamental plan by the electronic coin of this invention.

**Drawing 3**It is a figure for explaining the block diagram for an operation of the electronic coin by the portable telephone of this invention.

**Drawing 4**It is a figure for explaining the example of use by the electronic coin of this invention.

**Drawing 5**It is a figure for explaining the block diagram for an operation of the electronic coin by the vending machine of this invention.

**Drawing 6**It is a figure for explaining the requirement specification to the exclusive radio by the electronic coin of this invention.

**Drawing 7**It is a flow chart which shows the purchase procedure by the electronic coin of this invention.

**Drawing 8**It is a figure for explaining the block diagram for an operation with currency distinction of the electronic coin of this invention.

**Drawing 9**It is a block diagram showing Embodiment 2 by the electronic card of this invention.

**Drawing 10**It is a block diagram showing the circulation gestalt by the electronic card of this invention.

**Drawing 11**It is a block diagram showing Embodiment 3 by the electronic purse of this invention.

**Drawing 12**It is a block diagram showing the concept by the electronic purse of this invention.

**Drawing 13**It is a figure explaining the example of the menu screen by the portable telephone of this invention.

**Drawing 14**It is a figure for explaining the block diagram for an operation of the electronic money of this invention.

**Drawing 15**It is a block diagram showing Embodiment 4 by the electronic bank of this invention.

**Drawing 16**It is a figure for explaining the block diagram for an operation by the electronic bank of this invention.

**Drawing 17**It is a figure for explaining the data format of the electronic money used by this invention.

**Drawing 18**It is a figure explaining the gestalt of the conventional cash.

**Drawing 19**It is a figure explaining the gestalt of the conventional wallet.

**Drawing 20**It is a figure explaining the conventional cash and the circulation gestalt of various cards.

### **Description of Notations**

1a-1c Coin, and 2, 2a-2c A vending machine, three wallets, 4 bill stowage, 5 A coin stowage, 6 card containing sections, and 10 Cash, 11 buses, and 12 Train, 13 A store and 14 A bank and 15 A department store and 16 credit companies, 17 A dedicated terminal and 18 Bus cards and 19 An IO card and 20 Orange card, 21 A \*\*\*\*- \*\* card and 22 A credit card and 23 Debit card, 24 An IC card and 25 An ATM card and 26 Loan card, 27 The purchase course by cash, and 28 The purchase course by a card, and 29 The credit guarantee course by a card, 101, 101a-101c A portable telephone, 201 memory parts, and 202a-202d Money, 301 receive sections and 302 A

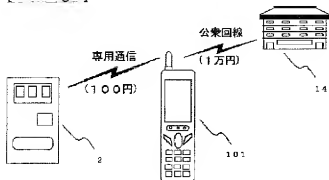
receiving coin recognition part and 303 Subtracting part, 304 A memory part and 305 A transmitting coin set part and 306 Transmission section, 401a-401c **A currency set part, 802 memory control parts, and 901a-901f / A portable telephone with a built-in card function; and 1101 1101a-1101c / Electronic purse built-in portable telephone**, A message and 501 A merchandise price recognition part and 502 A comparing element and 801 1201 A memory part and 1202a-1202d The memory part corresponding to a card, 1401 A receiving money recognition part, a 1402 transmitting money recognition part, and 1403 Money set part, 1501 An electronic bank and 1502 A bank and 1601 An account recognition part and 1602 Account Management Department, 1603 An account part and 1604 A money recognition part and 1605 Receiving money Management Department, 1606 An individual recognition part, the 1607 transmitting money Management Department, and the example of 1701 electronic data, 1702 The currency identification part of electronic data, the electronic money identification part of 1703 electronic data, the amount-of-money part of 1704 electronic data, and 1705 The example of an assignment of a currency identification part, the example of an assignment of a 1706 electronic-money identification part, and 1707 Example of bus cards.



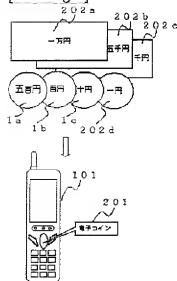
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- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\* shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

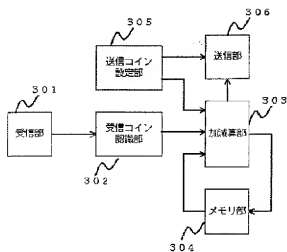
[Drawing 1]



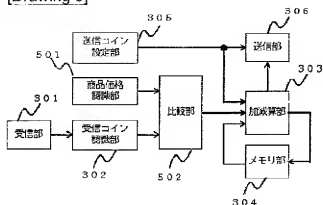
[Drawing 2]



[Drawing 3]

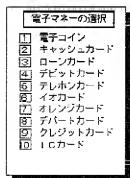


[Drawing 5]

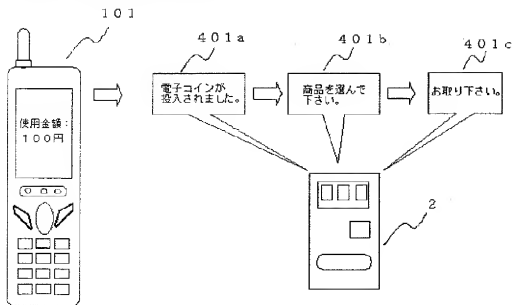


[Drawing 13]

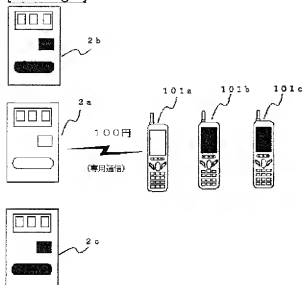
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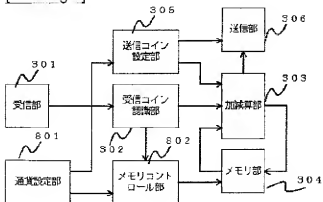
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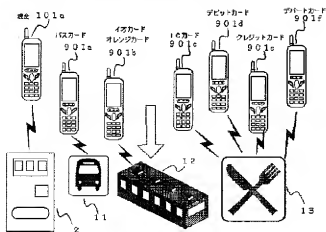
[Drawing 6]



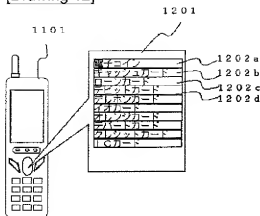
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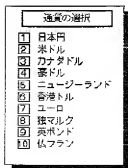
[Drawing 9]



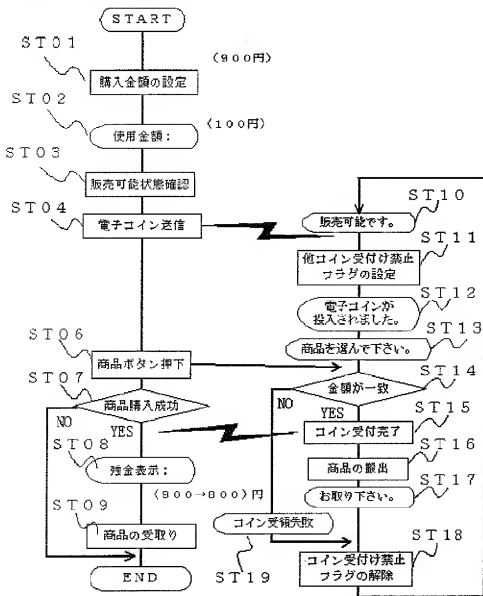
[Drawing 12]



(b)



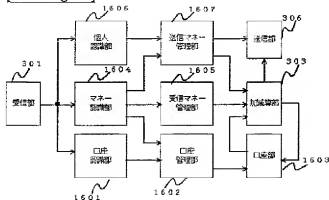
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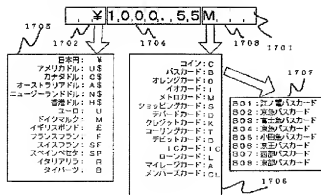
購入者と情報端末側

販売機側

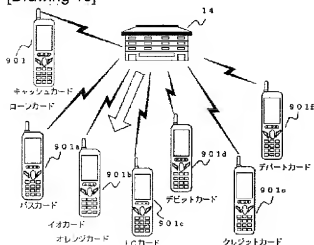
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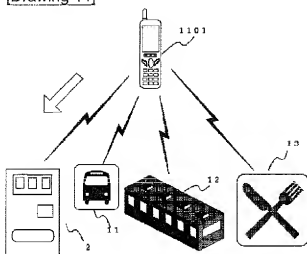
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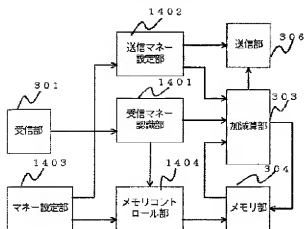
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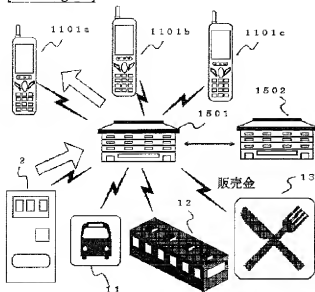
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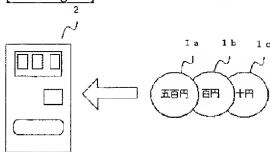
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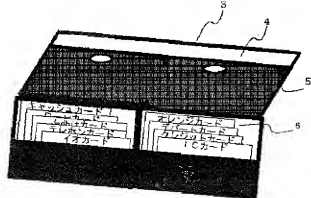
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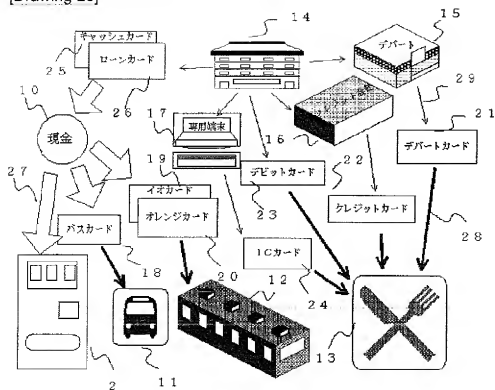
[Drawing 18]



[Drawing 19]



[Drawing 20]



[Translation done.]